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ABSTRACT

Noting that few studies have examined the relationship between quality of early childhood education (ECE) programs in India and the impact of such programs on young children's learning competencies, this study explored the relationship between various components of programs in the southeastern Indian state of Tamil Nadu and other family and socioeconomic factors, and their effects on children's perceptual motor skills, language and cognitive skills, and socioemotional development. Other study objectives included development and validation of an instrument for measuring ECE program characteristics and an instrument for measuring children's learning competencies. Participating in the study were 193 rural and urban 4-year-olds from lower socioeconomic level families and enrolled in 45 centers from among: (1) government-run Integrated Child Development Services; (2) government-run Tamil Nadu Integrated Nutrition Project; (3) nongovernmental organization-run programs; and (4) privately-run programs. Data were collected through parent and teacher interviews, an early childhood environment rating scale, and direct testing of children's competencies. Findings indicated that fathers' education, mothers' education, fathers' occupation, and housing quality related positively to children's competencies. Fathers' education was the strongest predictor of children's competencies. Children in low quality centers, as measured by the rating scale, had lower competencies than children in higher quality centers, even after controlling for the effect of fathers' education. The correlation between program quality and children's competencies was reduced somewhat but was still significant when rural-urban location was considered. The domains of fine and gross motor activities, language and reasoning experience, and social development activities in the ECE program showed the strongest positive relationships with child competence. Relationships between the early childhood rating instrument and children's competencies provide evidence for

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instrument validity. Discussion of findings focused on implications related to ECE quality, rural-urban differences, perceptions of quality ECE, and teachers' role. (KB)

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understanding the relationship between quality of early childhood education and learning competencies of children

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Quality matters!

Understanding the Relationship between Quality of Early Childhood Education and Learning Competencies of Children

An Exploratory Study in Tamil Nadu

Research Report No. 4

June 2000

M.S. SWAMINATHAN RESEARCH FOUNDATION

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A Synopsis of the Report

Introduction and rationale

The main goal of Early Childhood Education (ECE) is to ensure the optimal development of the young child. Extensive research evidence shows the positive impact of early interventions and the long-term effects of early childhood education, and indicates links between the educational and care processes on the one hand and children's development outcomes on the other. Very few studies in India have taken stock of the nature of ECE experiences vis-a-vis its impact on the learning competencies of children. Some micro-level studies have emphasized that it is the quality of ECE curriculum which makes the difference, but there is little evidence from India available in the literature establishing this link empirically. In this context, it was thought desirable to explore the relationship of various variables related to the quality of inputs in an ECE centre and the background variables (home and social environment of the child) with the learning outcomes for the child.

Objectives

1. To develop and validate a tool for measuring components/characteristics considered crucial for quality ECE programme/services
2. To contextualise and validate a tool for measuring learning competencies of children in Tamil Nadu
3. To explore the relationship between various components/characteristics of ECE and other family and socio-economic factors on the learning competencies of children, such as perceptual-motor skills, language and cognitive skills and socio-emotional development.

Variables of the study

The dependent variables (outcome variables) were the child's

- Cognitive (including numerical)
- Language
- Socio-emotional and
- Perceptual-motor abilities.

The independent variables (the predictor variables) were

- Family characteristics (fathers' education, mothers' education, fathers' occupation, mothers' occupation, type of house, number of consumer goods, family type, number of siblings, caste and religion)
- Centre characteristics (infrastructure, personal care and routine, physical learning aids, language and reasoning experiences, fine and gross motor activities, creative activities and social development activities)
- Teachers' characteristics (age, education, experience and training)
- The location of the family (rural or urban)

Methodology

The study was conducted in two regions, one rural (Dindigul district) and one urban, Chennai. The study drew a representative sample of 193 children (95 urban and 98 rural) aged 4 years belonging to the lower socio-economic groups in rural and urban areas who were enrolled in 45 centres from among the four prevailing types of ECE models in Tamil Nadu, these being:

1. Government run - ICDS (Integrated Child Development Services)
2. Government run - TINP (Tamil Nadu Integrated Nutrition Project)
3. NGO - (Non Governmental Organisation) run with financial assistance from Government under specified schemes

4. Private management, run with no financial assistance from Government, but collecting fees from parents

The four main tools used were:

- Tamil Nadu Early Childhood Environment Rating Scale (TECERS) (seven components)
- Child Learning Competency Test (CLeCT) (four domains)
- Parent Interview Proforma
- Teacher Interview Proforma

The first two are capable of being numerically scored, in order to enable statistical comparison. Two teams of investigators (one rural and one urban) collected data. In each team, one person rated centres and interviewed teachers, while two others tested children and interviewed parents. The two parts of each team functioned independently.

Strategy for analysis

To investigate the relationship between the quality of ECE centres and children's learning competencies, the main research strategy was to identify the most powerful family and social predictors of children's competencies, and then, after controlling for them, to investigate the contribution of centre quality components to children's learning. The patterns of association of the children's performance were investigated at four levels - of the child, the family, the centre, and finally the community, in this case identified by the rural or urban location.

Profile of the families

The families belonged to low-income communities, and the parents were of low educational and occupational status. Fifty percent studied up to Class V or less, twenty five percent being illiterate (fathers 18%, mothers

31%). Rural fathers were significantly better educated than urban fathers. Rural families were on the whole in lower occupations, with more than half (56%) of the fathers in the lowest occupations. Half the mothers were not economically active, while 80% of working mothers were in the lowest occupations (40% of all mothers). Two thirds of the families (67%) were nuclear, and two thirds (65%) had 2 or less children. Fortyfive percent lived in semi-pacca and 17% in katcha housing, and rural families were in significantly poorer housing. Seventeen percent owned no consumer items, 30% had one item, and 53% two or more. Rural families had fewer consumer items.

Profile of the centres

This profile is based on the characteristics scored with the help of the TECERS (Tamil Nadu Early Childhood Environment Rating Scale). The distribution of scores of the total TECERS for the 45 centres was normal, with a mean score of 48.2 and a range of 69 (from 15 to 84). The component Personal Care and Routine had the highest mean score (64.7) and the component Physical Learning Aids had the lowest mean score of 29.4.

Profile of the teachers

Of the 45 teachers, 13 teachers had no training of any kind, while 8 had training unrelated to ECE, thirteen had undergone the regular three-month job training provided by ICDS, and 11 had recognised ECE training of varying durations. Sixty percent had received some kind of orientation after starting to teach, ranging from a few days to up to 3 months.

Profile of the children's competencies

The children's learning competencies in four domains were measured with the help of the Child Learning Competency Test (CLeCT) and the distribution of the scores for 193 children was normal. The mean score was 57.8 and

the range 82 (from 8 to 90). The domain Language Skills had the highest mean score (73.4) and the domain Cognitive Skills the lowest (45.0). Rural children performed significantly better than urban on the whole, and in all domains except language.

Relationships

Of the ten family characteristics studied, the following four were found to have a significant positive association with children's competencies:

- fathers' education
- mothers' education
- fathers' occupation, and
- housing quality

The results, confirmed by two methods, correlation and multiple linear regression, show that fathers' education is the strongest of all predictors, because the variables are so inter-correlated that some of them lose their significance when others have been taken into account earlier. Hence, in all later analysis, fathers' education was partialled out.

When TECERS was correlated with children's scores, a positive relationship was found between the quality observed in the centres and children's performance. To put it plainly - quality makes a difference! Children in low quality centres (as measured by the TECERS), in general did not fare so well as their luckier peers in high quality centres, even after allowing for the effect of fathers' education. The relationship between the two was a moderate one (although statistically significant) because other factors are also important in influencing children's development. The correlation between TECERS scores and mean children's competence scores was $r = .27$ ($p < 0.01$) and $r = .22$ ($p < 0.01$) when rural-urban location was also taken into account.

Positive relationships between the various TECERS components and total child competence, as well as individual domains of development, were found. Fine and Gross Motor Activities, Language and Reasoning Experiences and Social Development Activities showed the strongest positive relationships with child competence, suggesting the importance of "active" learning. These results, also confirmed by two methods, are not surprising, since the role of activity/play in children's learning, as well as the specific role played by sensori-motor activities in concept development, have long been known. The findings once more empirically validate the conclusion that, in layman's language, "All work and no play makes Jack a dull boy".

As regards rural-urban differences, the superior educational levels of rural fathers in the sample is likely to be one of the reasons for the better performance of rural children. Other possible reasons need further study.

A comparison of the five "highest" and five "lowest" scoring centres threw light on the relationship between the "stimulation" and "nurturance" components of the environment.

The correlation between TECERS and specific individual learning competencies of children was also studied.

As teacher behaviour was integrated into the TECERS tool, the teachers' role was not separately studied. While available data about teachers' training did not lead to firm conclusions, it reinforced evidence from other studies about the links between teacher attitudes and perceptions, programme quality and child performance. Lack of training was not perceived as a problem by most teachers. Salary and working conditions, dissatisfaction with which is likely to affect motivation and morale, were the most often mentioned problems, and lack of materials, facilities, infrastructure and cooperation were next in importance.

Conclusions and policy implications

1. The TECERS tool

The relationships found between TECERS scores and children's competencies have concurrently validated the TECERS tool for use as an instrument to measure the quality of ECE centres and to identify and isolate the components. **The tool has now been made available for use,** not only for research but also, **for several other purposes,** such as training, monitoring and evaluation, and accreditation.

2. Quality of ECE

The study has established

- the significant relationship between the quality of ECE, as measured by the tool, and the level of learning competencies of young children, even after allowing for the effects of home and social background.
- the links between the identified and isolated components of quality, and the various domains of children's learning.
- that active learning involving perceptual and motor skills is the key to developing children's learning competencies at this age.

Mere establishment of ECE centres may not be of much use in terms of promoting children's learning. **Only quality can provide results, as far as learning competencies are concerned.**

Practitioners and service providers in various types of programmes must seriously consider whether **the principles of active learning are being followed to encourage children's learning** and if not, make serious efforts to encourage and promote change and strengthen quality components.

Baseline information is required about the various types of centres, and hence it is recommended that **a large scale study be undertaken, with the help of an objective and validated tool, in order to provide useful information and evaluative insights about the quality components of the various types of centres,** as a step towards formulating policy for improvement.

Different policy measures would be required for the various types of centres. For the large number of ECE centres in the public sector (a majority of those serving the poorer sections), Government will have to **take steps to make improvements in the quality of the services offered, by strengthening the various quality components.** However, a large number of ECE centres are in the private sector, while a smaller number are in the voluntary sector, and here **a package of regulatory and supportive measures is needed to improve quality in these sectors,** in such areas as curriculum, teaching method and teacher/child ratio.

3. Rural urban differences

The significant differences in the performance of rural and urban children were partially explained by the differences in the home background of the rural and urban children in the sample. There is a **need to explore and explain these differences in terms of other possible reasons.**

4. Perceptions of quality ECE

A disturbing social trend which emerged as a byproduct of the study was evidence of the drift of children from one type of centre to another. In urban areas, most children were being taken out of ICDS and even NGO centres by about the age of four and placed in private centres; in rural areas, this trend was less visible, but complicated by the recruitment of four year old children for enrolment in primary schools in the State sector. These movements no doubt reflect the views and preferences of parents.

teachers and managements of private schools and their perceptions of children's needs and the quality of ECE. However, these judgements of quality may not be the same as quality defined and measured by a tool developed on the basis of principles of child development and ECE. There is hence a **need to create widespread public awareness, especially among parents, about the components of quality in ECE and its relationship to children's learning and development.**

5. Role of Teachers

Though the data on teachers did not lead to firm conclusions, it suggested that training is not the only factor affecting quality of the programme, which is also influenced by teachers' job satisfaction and perception of problems. There is a need to study in more depth and detail the qualitative aspects of the **teachers' role in providing quality education to young children, and the linkages between programme quality, teacher characteristics and children's learning.**

In conclusion, while it is possible that "some ECE, of any kind, may be better that none" it is equally possible that it may not. The evidence here, however, suggests that low quality or "bad" ECE may not do much more for children's learning than "no ECE". There is no doubt, however, that "good" ECE leads to "good" results. Very simply, quality matters!

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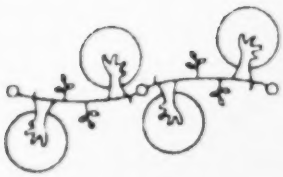

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